

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jonathan Berschadsky on January 13, 2011.

Please amend claims 1, 14, and 16 as follows:

Claim 1 (currently amended): An image processing method of generating a display image of a virtual space including a virtual object consisting of at least one part, comprising:

a first acquisition step of acquiring a position and an orientation of a viewpoint of an observer;

a second acquisition step of acquiring a position and an orientation of a pointing device;

a specification step of specifying a part that is included in ~~a~~the virtual object and is designated by the pointing device, based on positions of one or more parts included in the virtual object and the position and the orientation of the pointing device;

a calculation step of calculating a position of a list image to be laid out in the virtual space based on the positions of the viewpoint and the pointing device, wherein the calculated position of the list image is near the position of the pointing device and closer to the position of the viewpoint than that of the pointing device, wherein the list image represents information of the specified part;

a layout step of laying out the list image at the calculated position in ~~a~~the virtual space;

a virtual space image generation step of generating ~~a~~the display image of the virtual space, in which the laid out list image and the virtual object are included, based on the acquired position and orientation of the viewpoint; and

a composition step of composing the generated display image of the virtual space and an image of a physical space seen in accordance with the position and the orientation of the viewpoint to display the composed image at a head mounted display mounted on the observer's head.

Claim 14 (currently amended): An image processing apparatus for generating a display image of a virtual space including a virtual object consisting of at least one part, comprising:

a first acquisition unit adapted to acquire a position and an orientation of a viewpoint of an observer;

a second acquisition unit adapted to acquire a position and an orientation of a pointing device;

a specification unit ~~of for~~ specifying a part that is included in ~~a~~the virtual object and is designated by the pointing device, based on positions of one or more parts included in the virtual object and the position and the orientation of the pointing device;

a calculation unit for calculating a position of a list image to be laid out in ~~a~~the virtual space based on the positions of the viewpoint and the pointing device, wherein the calculated position of the list image is near the position of the pointing device and closer to the position of the viewpoint than that of the pointing device, wherein the list image represents a list of pieces of information about one or more parts, included in the virtual object, ~~near the position of the pointing device~~;

a layout unit adapted to lay out the list image at the calculated position in the virtual space;

a virtual space image generation unit adapted to generate ~~a~~the display image of the virtual space, in which the laid out list image and the virtual object are included, based on the position and the orientation of the viewpoint; and

a composition unit for composing the generated display image of the virtual space and an image of a physical space seen in accordance with the position and the orientation of the viewpoint to display the composed image at a head mounted display mounted on the observer's head.

Claim 16 (currently amended): A ~~non-transient~~ non-transitory computer-readable storage medium having a program stored therein, that when executed by a computer causes the computer to perform an image processing method of generating a display image of a virtual space including a virtual object consisting of at least one part, the method comprising:

a first acquisition step of acquiring a position and an orientation of a viewpoint of an observer;

a second acquisition step of acquiring a position and an orientation of a pointing device;

a specification step of specifying a part that is included in ~~a-the~~ virtual object and is designated by the pointing device, based on positions of one or more parts included in the virtual object and the position and the orientation of the pointing device;

a calculation step of calculating a position of a list image to be laid out in the virtual space based on the positions of the viewpoint and the pointing device, wherein the calculated position of the list image is near the position of the pointing device and closer to the position of the viewpoint than that of the pointing device, wherein the list image represents information of the specified part;

a layout step of laying out the list image at the calculated position in ~~a-the~~ virtual space;

a virtual space image generation step of generating ~~a-the~~ display image of the virtual space, in which the laid out list image and the virtual object are included, based on the acquired position and orientation of the viewpoint; and

a composition step of composing the generated display image of the virtual space and an image of a physical space seen in accordance with the position and the orientation of the viewpoint to display the composed image at a head mounted display mounted on the observer's head.

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID T. WELCH whose telephone number is (571)270-5364. The examiner can normally be reached on Monday-Thursday, 8:00-5:30 EST, and alternate Fridays, 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571)272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/dtw/

/XIAO M. WU/
Supervisory Patent Examiner, Art Unit 2628